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*Director of Public Works*



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Patrick Buteau  
*Assistant Director  
Parking & Fleet Services*

## **MEMORANDUM**

To: Board of Finance

From: Patrick Buteau, Assistant Director DPW 

Date: October 04, 2012

Subject: Award of construction contract relating to new traffic signal upgrade to Archibald and North Winooski Avenue intersection.

Bids were solicited to provide necessary conduit and excavation work associated with upgrading the intersection of North Winooski Avenue and Archibald Street to bring it into compliance with MUTCD standards of dual indication. This intersection is one of the last single indication signalized intersections in the City.

Seven firms were sent RFP's and only two responded at bid opening. Others were not able to fit the project into our tight timeline or their construction work schedules.

Staff recommendation is to award the project to All Seasons Excavating for the price of \$30,395.21.

This project is budgeted in the fiscal year 2013 budget at \$58,000. Adding the cost of two new mast arms and LED vehicular and pedestrian signals purchased by DPW will use the entire budgeted amount.

## **Specifications:**

### **1. Install underground conduit:**

Length of conduit runs in green belt +/- 120'.

Length of conduit runs under sidewalk +/- 60'.

All conduits will be 2" schedule 40 PVC installed to a depth of 36". The following descriptions refer to the following drawings starting from the NW corner and generally proceeding clockwise around the intersection.

a. Install conduit 1 from base 1 to junction box 1 on the NW corner. This is under about 30' of sidewalk. Find the end of conduit 2 (installed in 1996) and stub it into junction box 1. Page 10, pictures 1 and 2.

b. Find the other end of conduit 2 and stub it into junction box 2. Install conduit 3 from base 2 to junction box 2. Find the end of conduit 4 (installed in 1996) and extend it into junction box 2. Page 11, picture 3.

c. Find the other end of conduit 4 and stub it into junction box 3. Install conduit 5 from junction box to the controller. Conduits 6, 7, and 8 will share the same trench. Page 11, pictures 4 and 5.

d. Install conduits 6 and 7 from two 25' (+/-) risers mounted on the wood utility pole non-stop to the controller. The Traffic Division will install the risers on the pole. One riser will provide electric service, the other will provide a path for a future communications cable. Pages 11 and 13.

e. Install conduit 8 from the controller to base 3. Find the end of conduit 10 and stub it into junction box 4. Install conduit 9 from base 3 to junction box 4. Page 12, pictures 5 and 6.

### **2. Install 4 junction boxes:**

The Traffic Division will supply the junction boxes. Provide 12" of crushed rock at the bottom for drainage and support. Conduits should be 6 to 9" from bottom of junction box lid to allow space for cable looping.

### **3. Install a precast concrete base for the controller:**

The Traffic Division will supply a precast square tapered concrete controller base, 32" square at the bottom by 24" high. The base will sit 12" in the ground with 12" projecting above ground. All conduits running to the controller will be brought in through the hollow center of the base. As with the junction boxes above, provide 12" of crushed rock at the bottom for drainage and support.

### **4. Remove old base, install new precast concrete base on the NE corner:**

An old, existing concrete base will have to be removed first. The Traffic Division will supply a new precast cylinder concrete pedestal base, 18" diameter by 60" tall. The base will project 3" above sidewalk level, and the single conduit from the base will be brought to junction box 2. Page 11, picture 3.

**5. Construct mast arm structure bases:**

Install cylindrical concrete structure bases, 36" diameter by 8' deep, one for each of the two signal support structures. Concrete shall be 3500 psi minimum.

Reinforce the concrete bases with eight #8 vertical rebars, 7' 6" long, spaced evenly around the outer diameter of the base, no closer than 3" from the edge of the concrete. Tie the eight #8 rebars to eight circular hoops, made from #4 rebar, 30" diameter, overlapping the ends at least 18". Space the hoops evenly with 12" vertical separation.

The city will supply four galvanized anchor bolts for each foundation, with the bolt circle and projection to be determined by the pole manufacturer. The contractor will provide a means of securing the bolts firmly in place to prevent bolt movement while the concrete is being poured. Such means shall consist of using a plywood template for the top of the bolts, and welding cross separators to the bottom of the bolts to prevent them from going out of parallel. Bolt orientation of the two structure bases will be square with each other. When the mast arm structures are assembled the arms will point directly at each other.

**6. Install mast arm structures:**

Assist the Traffic Division in installing the two traffic mast arm structures. The Traffic Division will pre-wire and pre-mount all traffic signals to the structures. The contractor will supply a line truck or crane capable of lifting 1000 pounds to a height of 22', along with an operator and personnel to help with traffic control and installation. Once the structures are in place, the contractor will pour additional concrete around the base, flush with the bottom of the structures. This finishing concrete will be poured to the same diameter as the main base, and finished smooth on the exposed surfaces and sides.

**Materials and responsibilities summary:**

**Traffic Division will supply:**

- Traffic signals
- Structures and anchor bolts
- Junction boxes
- Precast concrete controller and pedestal bases
- Controller and cabinet
- All wire and cable
- Set up, wire the controller, initial turn-on

**Contractor will supply:**

- Excavation permit
- All conduit
- Sonotubes, rebar, hardware as needed for large structure foundations
- Crane, crew to help install the two new mast arms
- Material and equipment necessary for traffic control
- Remove existing concrete base on NE corner
- Sidewalk and greenbelt restoration

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**Special Note:**

The work described herein assumes that the existing under-the-street conduits, installed in 1996, are locatable and in good shape. The expectation is that these existing conduits will be found and exposed as greenbelt is excavated in the area. When one end of an existing, under-the-street conduit is found, a snake will be run in as far as possible and measured for length, to verify that the conduit is unobstructed.

If an existing conduit cannot be located or is unusable for some reason, a new street crossing conduit may have to be installed. With North Winooski Avenue recently repaved, it would be preferable to do a below-grade pipe push, if necessary. Such work is additional and beyond the scope of this request for bids.

**Acceptance Page**

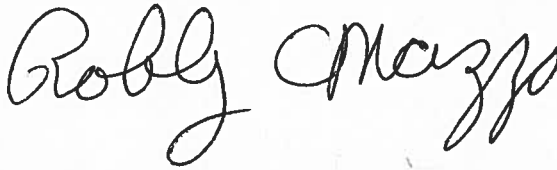
**Traffic Signal at Winooski & Archibald**

**Bid Total:** \$30,395.21

We, the firm of All Seasons Excavating & Landscaping, Inc.

submit this bid for work as detailed in the bid document. Furthermore, we certify that we are capable of performing and completing all work as outlined in the bid document.

**Signature:**



**Title:** President

**Date:** 10/04/12

**Address:** P.O. Box 96  
Colchester, VT 05446

**Telephone:** 802-655-3976

**FOR OFFICE USE ONLY:**

- ☐ Lump Sum Bid Total Provided
- ☐ Acceptance Page Signed
- ☐ Proof of Insurance Provided
- ☐ Contract experience with the Traffic Division or references  
with names and telephone numbers provided
- ☐ Certification of compliance with the Burlington Livable Wage ordinance

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**Acceptance Page**

**Traffic Signal at Winooski & Archibald**

**Bid Total:** 147,147-

We, the firm of Don Waston Exc. Inc.

submit this bid for work as detailed in the bid document. Furthermore, we certify that we are capable of performing and completing all work as outlined in the bid document.

**Signature:** Don Waston

**Title:** Pres.

**Date:** 4 Oct 12

**Address:** 349 Commercial  
Williston, Vt. 05495

**Telephone:** 802-860-1566

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